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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/716,392	11/20/2000	Thomas G. Houman	USG-3368	8631

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EXAMINER

SHOSHO, CALLIE E

ART UNIT

PAPER NUMBER

1714

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/716,392

Applicant(s)

HOUMAN ET AL.

Examiner

Callie E. Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4-12 and 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claims 4, 5, and 15 each recite that the composition is a "setting-type" composition. The scope of the claims is confusing because it is not clear what is meant by "type". What kinds of compositions are encompassed by this phrase? The addition of the word "type" extends the scope of the claims so as to render them indefinite since it is unclear what "type" is intended to convey. The addition of the word "type" to the otherwise definite expression renders the definite expression indefinite by extending its scope. *Ex parte Copenhaver*, 109 USPQ 118 (Bd. App. 1955).

Similar arguments are set forth with respect to claims 7 and 16 which each recite "drying-type" and claims 9, 11, and 17 which each recite "sprayable-type".

(b) Claim 4, which depends on claim 1, recites that the aggregate layer has thickness of about 0.020 inches to about 0.050 inches. Claim 1 recites that there is present a quantity of aggregate particle "sufficient to form a layer having thickness equal to but not exceeding the size

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of the largest particles". Given that claim 1 recites that the aggregate particles have particle size greater than 0.012 in (50 mesh) and less than 0.023 in (30 mesh), the recitation in claim 1 appears to limit the thickness to a maximum of 0.023 in, i.e. the size of the largest particles. Thus, it is not clear how the layer can have thickness of, for instance, 0.050 inches as required in claim 4. Clarification is requested.

Similar questions also arise in claims 9 and 10 which each depend on claim 1 and also recite the thickness of the aggregate layer.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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4. Claims 1, 3, and 7-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Takaoka et al. (U.S. 6,063,472).

Takaoka et al. disclose a composition comprising 0.5-18% resin and 70% or less aggregate particles such as calcium carbonate which have particle size of 0.03-2 mm which clearly overlaps the requirement in the present claims that the particles pass through a 30 mesh, i.e. 0.6 mm, screen and are retained on a 50 mesh, i.e. 0.3 mm, screen. The aggregate particles form a layer with a thickness of 0.1-3 mm or 0.004-0.118 inches. It is disclosed that the resin increases adhesion strength, i.e. functions as a binder (col.4, lines 29-42, col.5, lines 5-6, 9-10, 12-15, 43-53, and 58-63, col.6, lines 14-17, and col.9, lines 23-30).

As defined on page 5, lines 1-3 of the present specification, a drying-type composition is one which contains calcium carbonate filler. Given that Takaoka et al. disclose the use of calcium carbonate (col.3, lines 46-47), it is clear that the composition is a drying-type composition as presently claimed. Further, given that Takaoka et al. disclose composition identical to that presently claimed including particle size of aggregates, it is clear that the composition is inherently sprayable.

In light of the above, it is clear that Takaoka et al. anticipates the present claims.

5. Claims 1, 3-4, and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kano et al. (U.S. 5,891,948).

Kano et al. disclose a composition comprising resin binder and aggregate particles which have particle size of 0.05-5 mm which clearly overlaps the requirement in the present claims that the particles pass through a 30 mesh, i.e. 0.6 mm, screen and are retained on a 50 mesh, i.e. 0.3

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mm, screen. The aggregate particles form a layer with a thickness of 1-7 mm or 0.039-0.275 inches. It is further disclosed that the composition functions as a setting-type, drying-type, and sprayable-type composition (col.1, lines 25-31, col.4, lines 57-62, col.6, lines 42-46, 56-57, and 62-67, col.7, lines 15-18, col.8, lines 55-67, and col.10, line 17).

In light of the above, it is clear that Kano anticipates the present claims.

6. Claims 1, 3, 9-10, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Caldwell (U.S. 5,869,166).

Caldwell discloses a composition comprising resin binder and calcium carbonate particles which have particle size of 75-350 μm or 0.075-0.35 mm which overlaps the requirement in the present claims that the particles pass through a 30 mesh, i.e. 0.6 mm, screen and are retained on a 50 mesh, i.e. 0.3 mm, screen. The aggregate particles form a layer with a thickness of 1 mm or 0.039 inches. It is further disclosed that the composition functions as a sprayable-type composition (col.1, lines 56-61, col.2, lines 4-8, and col.4, line 35-col.4, line 2).

As defined on page 5, lines 1-3 of the present specification, a drying-type composition is one which contains calcium carbonate filler. Given that Caldwell discloses the use of calcium carbonate as described above, it is clear that the composition is a drying-type composition as presently claimed.

In light of the above, it is clear that Caldwell anticipates the present claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 2, 4-6, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takaoka et al. (U.S. 6,063,472) in view of Andersen et al. (U.S. 6,180,037).

The disclosure with respect to Takaoka et al. in paragraph 4 above is incorporated here by reference.

The difference between Takaoka et al. and the present claimed invention is the requirement in the claims (a) that the composition is a setting-type composition and (b) that the aggregate particles are closely spaced and the number of aggregate particles per square inch of aggregate layer.

With respect to difference (a), it is noted that page 5, lines 3-4 of the present specification define a setting-type composition as one which comprises calcium sulfate hemi-hydrate. Takaoka et al. is silent with respect to the use of such compound.

Andersen et al., which is drawn to sheets prepared from composition comprising binder and aggregate particles, disclose the use of gypsum hemihydrate, i.e. calcium sulfate hemihydrate, as an aggregate in order to impart binding and strength to the composition (col.26, lines 63-67 and col.27, lines 17-22) as well as affect the rheology of the composition (col.37, lines 30-38).

In light of the motivation for using gypsum hemihydrate disclosed by Andersen et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such aggregate in the composition of Takaoka et al. in order to produce a setting-type composition with good adhesion and strength as well as suitable rheology, and thereby arrive at the claimed invention.

With respect to difference (b), Andersen et al., which is drawn to sheets prepared from composition comprising binder and aggregate particles, disclose that particle packing is a primary factor for designing the desired requirements for the final product such as workability,

stability, shrinkage, bulk density, elasticity, etc. and further disclose that the particle packing density of the aggregate greatly affects the rheology and workability of the composition. For instance, the more closely packed the particles, the less liquid required to fill the interstitial space between the particles which in turn affects the rheological properties of the composition such as workability (col.21, lines 50-60 and col.36, line 44-col.37, line 4).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to choose how to space the aggregate particles as well the number of particles used per square inch, including that presently claimed, in Takaoka et al. in order to produce a composition with the desired properties such as workability, stability, shrinkage, bulk density, elasticity, etc., and thereby arrive at the claimed invention.

10. Claims 2 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano (U.S. 5,891,948) in view of Andersen et al. (U.S. 6,180,037).

The disclosure with respect to Kano in paragraph 5 above is incorporated here by reference.

The difference between Kano and the present claimed invention is the requirement in the claims that the aggregate particles are closely spaced and the number of aggregate particles per square inch of aggregate layer.

Andersen et al., which is drawn to sheets prepared from composition comprising binder and aggregate particles, disclose that particle packing is a primary factor for designing the desired requirements for the final product such as workability, stability, shrinkage, bulk density, elasticity, etc. and further disclose that the particle packing density of the aggregate greatly

affects the rheology and workability of the composition. For instance, the more closely packed the particles, the less liquid required to fill the interstitial space between the particles which in turn affects the rheological properties of the composition such as workability (col.21, lines 50-60 and col.36, line 44-col.37, line 4).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to choose how to space the aggregate particles as well the number of particles used per square inch, including that presently claimed, in Kano in order to produce a composition with the desired properties such as workability, stability, shrinkage, bulk density, elasticity, etc., and thereby arrive at the claimed invention.

11. Claims 2, 4, 14-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Caldwell (U.S. 5,869,166) in view of Andersen et al. (U.S. 6,180,037).

The disclosure with respect to Caldwell in paragraph 6 above is incorporated here by reference.

The difference between Caldwell and the present claimed invention is the requirement in the claims (a) that the composition is a setting-type composition and (b) that the aggregate particles are closely spaced and the number of aggregate particles per square inch of aggregate layer.

With respect to difference (a), it is noted that page 5, lines 3-4 of the present specification define a setting-type composition as one which comprises calcium sulfate hemi-hydrate. Caldwell is silent with respect to the use of such compound.

Andersen et al., which is drawn to sheets prepared from composition comprising binder and aggregate particles, disclose the use of gypsum hemihydrate, i.e. calcium sulfate hemihydrate, as an aggregate in order to impart binding and strength to the composition (col.26, lines 63-67 and col.27, lines 17-22) as well as affect the rheology of the composition (col.37, lines 30-38).

In light of the motivation for using gypsum hemihydrate disclosed by Andersen et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such aggregate in the composition of Caldwell in order to produce a setting-type composition with good adhesion and strength as well as suitable rheology, and thereby arrive at the claimed invention.

With respect to difference (b), Andersen et al., which is drawn to sheets prepared from composition comprising binder and aggregate particles, disclose that particle packing is a primary factor for designing the desired requirements for the final product such as workability, stability, shrinkage, bulk density, elasticity, etc. and further disclose that the particle packing density of the aggregate greatly affects the rheology and workability of the composition. For instance, the more closely packed the particles, the less liquid required to fill the interstitial space between the particles which in turn affects the rheological properties of the composition such as workability (col.21, lines 50-60 and col.36, line 44-col.37, line 4).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to choose how to space the aggregate particles as well the number of particles used per square inch, including that presently claimed, in Caldwell in order to produce a composition with the

desired properties such as workability, stability, shrinkage, bulk density, elasticity, etc., and thereby arrive at the claimed invention.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Benneyworth et al. (U.S. 5,024,554) and Adolf (U.S. 3,985,018) each disclose composition comprising binder and aggregate particles, however, the size of the particles falls outside the scope of the present claims.


Aoki et al. (U.S. 4,367,300) disclose composition comprising resin and calcium carbonate aggregate, however, the size of the aggregate is outside the scope of the present claims.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

A handwritten signature in cursive script, appearing to read "Callie Shosho".

Callie Shosho
April 27, 2002

Callie E. Shosho
Examiner
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